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10/016,940	12/13/2001	Katsuhito Kitahara	P6397a	3867

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EXAMINER

KANG, ROBERT N

ART UNIT

PAPER NUMBER

2622

DATE MAILED: 09/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/016,940	Applicant(s) KITAHARA ET AL.	
	Examiner Robert N. Kang	Art Unit 2622	<i>RNK</i>

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

[Signature]
ZWYLER LAMB
PRIMARY EXAMINER

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 3, 10, 11, 12, 19 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Hamzy (US-PAT 6604111).

Regarding claims 1, 10 and 20, Hamzy discloses a method, computer readable medium storing the aforementioned method, and apparatus for generating a Java executable data presentation file 1100 to be executed within a Java Virtual Machine 1101 to reproduce the desired data presentation output, shown in figure 11 as the hardcopy printout printed from printer 1102. Hamzy discloses in column 9 lines 48-51, "the process starts (step 500) when a user issues a print request to the JDK application (step 510) that processes the user print request 520." After the user gives the print instruction, Hamzy states in column 12 lines 37-46, "JDK application 411 initiates a print job, which is generated in JVM 401, which may include a software component similar to executable print job generator or executable data-presentation generator 407. JVM 01 generates executable print job file 11, and may temporarily store this file on client 108. Eventually JVM 401 transmits executable data-presentation job file 1100 to JVM 2202 located on server 104. Upon receiving the executable print job file, JVM 1101 executes the file in order to produce hardcopy output on printer 1102." Hamzy further discloses in

column 13 lines 1-3, "JVM 1101 may also be an embedded virtual machine implemented in hardware, firmware, microcode, or read only code stored in printer hardware 1102." Since, as Hamzy states in column 6, lines 45-46, "the Java virtual machine (JVM) is a virtual computer component that resides only in memory," it is obvious that the printer as described by Hamzy which includes a JVM stores the code and data in memory which can be retained for continual usage, i.e., nonvolatile storage. Therefore, the executable print job file generation and execution system as disclosed by Hamzy is a "method of storing print data in non-volatile storage in a target printer."

With regards to the first limitation of the claims 1, 10, and 20, "a step for creating print data," Hamzy discloses in column 9, lines 58-60, "at some point in its initial processing of the print job request, JDK application 411 invokes a getPrintJob() method." Hamzy further states in column 8, lines 2-7, "application or applet 411 contains PrintJob class 412 and Graphics Class 413, which enable it perform some of the data-presentation processing. JVM 401 and the application or applet 411 share the Graphics class 404 and Font Class 405, which provide graphics environment information and methods for various data-presentation processes." Therefore, the application generates the print data for storage.

Regarding the second limitation of claims 1, 10, and 20, "a step for creating a command data set for storing the print data in the nonvolatile storage in the target printer," Hamzy's system creates a storage file which is a computer executable file; therefore the executable file inherently contains a command data set for the JVM to carry out. In the aforementioned embodiment where the JVM is embedded within the

printer, the executable file contains a command set for the storage and use of the data within the target printer.

Regarding the limitation (d) requiring a method with "a file output step for storing the data storage file in a data storage medium readable by a host device, or for sending the data storage file to the host device via a communication path," Hamzy states in column 12 lines 40-42 that "JVM 401 generates executable print job file 11... and may temporarily store this file on client 108." Therefore the method as disclosed by Hamzy "stores the file in a data storage medium readable by a host device."

Regarding the final claim limitation, Hamzy discloses in figure 11 the host device running JVM 1101, which, upon reading the executable data-presentation job file 1100, sends the data to a plurality of data-presentation devices 1102-1104, specifically 1102, the target printer. The target printer as disclosed by Hamzy can either store the generated print data for further usage or print a hardcopy printout as shown in figure 11. Therefore the "data storage file, when read by the host device, causes the host device to transmit the print data to the target printer for storage in the nonvolatile storage therein."

Regarding claims 2 and 11, an example of pseudo-code contained within Hamzy's aforementioned executable print job file is given in figure 12A. The section beginning on line 3 commented as "load print job class file into JVM's class space" has instructions for declaring a class c and assigning it a value passed by the function call `cl.loadClass("SpooledPrintJob")`. Since assigning a class or variable in high level

programming language translates to assigning and addressing a block of memory within the JVM device's memory, and the spooled print job is the print job data, the "command data set includes a data storage command set for storing the print data in the non-volatile storage of the target printer."

In regards to claims 3 and 12, an example of pseudo-code contained within Hamzy's aforementioned executable print job file is given in figure 12A. The section beginning on line 3 commented as "load print job class file into JVM's class space" has instructions for declaring a class c and assigning it a value passed by the function call `cl.loadClass("SpooledPrintJob")`. These high level commands are translated by the Java compiler into assembly and low level commands specific to the device on which the JVM is running. Hamzy states in column 6, lines 55-65, "the compiled code is executable on many processors, given the presence of the Java run-time environment. These instructions are designed to be easy to interpret on any machine and easily translated on-the-fly into native machine code." Broadly defined, the translation process from java bytecodes to native machine code qualifies as "creating a data storage command set," since each device running the JVM could possibly have a different memory space and addressing mode.

With regards to claims 9 and 18, Hamzy discloses an apparatus in column 13, lines 1-3, "JVM 1101 may also be an embedded virtual machine implemented in hardware, firmware, microcode, or read-only code stored in printer hardware 1102. As

stated earlier in this action, an example of pseudo-code contained within Hamzy's aforementioned executable print job file is given in figure 12A. The section beginning on line 3 commented as "load print job class file into JVM's class space" has instructions for declaring a class c and assigning it a value passed by the function call `cl.loadClass("SpooledPrintJob")`. As stated earlier, assigning a class or variable in high level programming language translates to assigning and addressing a block of memory within the JVM device's memory. Defining the host machine as a JVM running on the printer itself, upon execution of the executable print job file, operationally equivalent to "the host device accessing the data storage file", the print job data is stored in the address space of the target printer. Therefore the claim limitations of claims 9 and 18 are predicted by Hamzy's method and system.

Regarding claim 19, Hamzy discloses in column 13, lines 30-39, "the processes of the present invention are capable of being distributed in a form of computer readable medium of instructions and a variety of forms... examples of computer readable media include recordable-type media such as floppy disc, a hard disc drive, a RAM, and CD-ROMs and transmission-type media such as digital and analog communication links." Therefore the claim 19 requirements that "computer readable data storage medium ... comprises a compact disc, floppy disk, hard disk, magnetic tape, or electromagnetic carrier wave," are explicitly anticipated by Hamzy.

In regards to claim 21, Hamzy's apparatus as depicted in figure 8 meets the functional requirements of the cited claim. In step 830 the executable print job generator outputs source code statements to the executable print job file for AWT calls; this step is essentially generating the print data as well as the storage command sets, since they are both encapsulated within the executable file. The preceding and following steps 820 and 840 attach a header and footer, thus the file is "adapted to be executed by the target printer to store the print data." Finally the executable print job generator 850 compiles the executable print job file, thus meeting the requirement that "the file generator combines the data storage command set and the print data to create the data storage file."

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4, 5, 6, 7, 8, 13, 14, 15, 16, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamzy (US-PAT 6604111) in view of Chan.

Hamzy discloses a method in column 12 lines 44-46 and lines 50-52, "upon receiving the executable print job file, JVM 1101 executes the file in order to produce hardcopy output on printer 1102... Alternatively, JVM 1101 executes the executable data-presentation file to produce output on display 1103 or data-presentation device 1104." Hamzy states in column 12, line 30-33, "actual hardware and software configurations for the origin and destination of the print job, may vary depending on the user's computing environment."

Hamzy does not expressly describe a data transmission command set for sending storage command set and print data to the target printer, and thus did not specify that communication parameters for connecting the host device with the target printer are contained in the aforementioned data transmission set.

Chan (see reference U on form PTO-892) discloses on supplementary website (V) in section e151 a method for sending a datagram to a known IP address, socket, or port. This known IP address, socket, or port, when taken into the context of the claimed Hamzy invention, could be any of a plurality of network enabled or directly connected data-presentation devices, therefore meeting the limitations of claims 4, 5, 13, and 14, wherein "the command set data includes a data transmission set for sending the data storage command set and the print data to the target printer."

Furthermore, the send datagram function requires that the address, socket, or port identifier be passed as a parameter into the function, therefore claims 6 and 15, requiring "the data transmission command set comprises communication parameters for connecting the host device with the target printer" are also met.

The address of the data-presentation device or target printer can be either hard-coded into the executable print job file or may prompt the user through the JVM for communication settings, thus meeting the limitations of claims 8 and 17, wherein the executable command set "enables inputting the communication parameters including communication settings." The stated Java package was available in Java version 1.3, released in 1998.

Chan and Hamzy are combinable because they both deal explicitly with the Java programming language by Sun Microsystems.

At the time of the invention, it would have been obvious to one of normal skill in the art to include a "data transmission command set", such as the send datagram function as disclosed by Chan, containing the interface address of the target printer, in the executable print job file generated by the system patented by Hamzy.

The motivation for this modification would be to allow the user to specify a plurality of printers or data-presentation devices to receive the print data, thus allowing the user to send to all or some of the various devices communicably attached to the JVM.

Therefore it would have been obvious to combine Hamzy with Chan to obtain the invention as specified in claims 4, 5, 6, and 13, 14, 15.

Specifically regarding dependent claims 7 and 16, the aforementioned Chan modified Hamzy method comprises a host Java Virtual Machine 401 generating an executable print job file 1100 containing data transmission command set instructions as taught by Chan, which, upon execution by Java Virtual Machine 1100, sends packets of

data to a location specified by user input or by hard-coded parameters to various printers 1102 or other data presentation devices 1103-1104.

The recited Chan modified Hazmy method does not expressly disclose an executable command set which "detects the communication parameters and sends the data storage command set and print data to the target printer according to the detected communication parameters."

Chan also teaches in reference W a Java package available in Java 1.3, released in 1998, which contains functions for discovering all available print services and parameters. Chan discloses in lines 1-3 a method to discover all available print services, in lines 4-6 a method to discover the machine default printing service, in lines 7-11 a method to find all services which can support a specific input format, in lines 12-17 a method to find a particular printer service by name, and in lines 23-28 a method to find all services which support a set of print job capabilities. These functions return values to be used as parameters for print data or datagram/packet transmission readily available in the Java.net or Java.print packages.

Chan and Hamzy are combinable because they both deal explicitly with the Java programming language by Sun Microsystems.

At the time of the invention, it would have been obvious to one of normal skill in the art to include the PrintServiceLookup functions as taught by Chan to "automatically detect the communication parameters" for the target printer and passing these values as parameters to the transmission instructions in the executable print job file generated by the system patented by Hamzy.

The motivation for this modification would be to allow the automatic detection of all available print or data-presentation devices communicably connected to the Java Virtual Machine, making the printing process completely automatic. Furthermore, by utilizing the other functions for print parameters such as job capability, print service name, and input format, user input is enabled for selecting an appropriate print device. Thus rejected claims 8 and 17 are also anticipated by this combination.

Therefore it would have been obvious to combine Hamzy with Chan to obtain the invention as specified in claims 7 and 16 as well as in the rejected claims 8 and 17.

In regards to claims 22, 23, and 24, an apparatus utilizing the aforementioned Chan modified Hamzy method comprises a host Java Virtual Machine 401 generating an executable print job file 1100 containing data transmission command set instructions as taught by Chan, which, upon execution by Java Virtual Machine 1100, sends packets of data to a location specified by user input or by hard-coded parameters to various printers 1102 or other data presentation devices 1103-1104.

The recited Chan modified Hazmy apparatus does not expressly disclose an executable command set which "detects the communication parameters and sends the data storage command set and print data to the target printer according to the detected communication parameters."

Chan also teaches in reference W a Java package available in Java 1.3, released in 1998, which contains functions for discovering all available print services and parameters. Chan discloses in lines 1-3 a method to discover all available print

services, in lines 4-6 a method to discover the machine default printing service, in lines 7-11 a method to find all services which can support a specific input format, in lines 12-17 a method to find a particular printer service by name, and in lines 23-28 a method to find all services which support a set of print job capabilities. These functions return values to be used as parameters for print data or datagram/packet transmission readily available in the Java.net or Java.print packages.

Chan and Hamzy are combinable because they both deal explicitly with the Java programming language by Sun Microsystems.

At the time of the invention, it would have been obvious to one of normal skill in the art to include the PrintServiceLookup functions as taught by Chan to "automatically detect the communication parameters" for the target printer and passing these values as parameters to the transmission instructions in the executable print job file generated by the system patented by Hamzy.

The motivation for this modification would be to allow the automatic detection of all available print or data-presentation devices communicably connected to the Java Virtual Machine, making the printing process completely automatic. Furthermore, by utilizing the other functions for print parameters such as job capability, print service name, and input format, user input is enabled for selecting an appropriate print device. Thus claims 22, 23, and 24 are encompassed by this modification.

Therefore it would have been obvious to combine Hamzy with Chan to obtain the invention as specified in claims 22, 23, and 24.

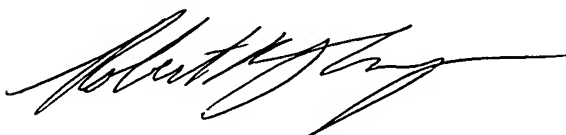
Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Agatone (US-PAT 582744) discloses a method of automatic printer detection and status updating by polling a socket. Yokoyama (US-PAT 6789482) describes an apparatus wherein a logo or background image is stored in nonvolatile memory of a printer for printing out of a point of sales receipt printer. Heinrich (US-PAT 5894792) discloses a method and apparatus for changing the text portion of logos for postage meters.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert N. Kang whose telephone number is (571) 272-0593. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Coles can be reached on (571)272-7402. The fax phone number for the organization where this application or proceeding is assigned is 571-272-8300.


Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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